

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-21 (cancelled)

22. (Currently Amended) A method for the repair of damaged tissue cartilage present at or on the surface of bone in an animal, including a human being, the method comprising:

forming a narrow groove around at least part of said damaged tissue cartilage using a cutting tool, the groove extending below the damaged tissue cartilage and into the bone;

removing the damaged tissue cartilage within the region defined by the groove to form a cavity in the tissue cartilage present on the surface of the bone, the narrow groove extending from the cavity into the bone;

inserting a bio-compatible replacement pad in the cavity from where the damaged tissue cartilage has been removed, the pad configured to encourage cell in-growth at the repair site;

retaining the bio-compatible replacement pad in the cavity using an array of elongate connecting portions attached to or near the perimeter of said pad, said connecting portions extending away from the general plane of said pad at or near the perimeter of said pad in a direction towards a retaining element to provide a connection between said retaining element and said pad, each of said connecting portions connected to the retaining element and spaced apart from each other between the retaining element and the pad to allow tissue in-growth at the groove;

anchoring the bio-compatible replacement pad in said cavity by sliding said retaining element depthwise into the groove to a depth into the bone underlying said cavity to apply a downward pulling force to said connecting portions to locate and anchor said pad in said cavity;

delivering the pad, the retaining element and the connection portions to their anchored positions using an implant delivery device on which the pad, retaining element and connecting portions are preassembled;

anchoring the retaining element and pad in position by sliding the retaining element depthwise into the groove using the delivery device via a single insertion and withdrawal movement of the delivery device such that all of the retaining element is anchored in the groove at a depth of the underlying bone and is spaced apart from the pad in anchored position by a depth of the groove;

wherein the retaining element is anchored in position within the groove initially by the frictional contact between the retaining element and the side walls of the groove defined by the surrounding bone;

wherein the retaining element is slid depthwise from the region of the cavity to the underlying bone in the same orientation in which the retaining element is anchored in position at the bone relative to the pad and is preformed to have a shape corresponding generally with at least a part of the shape of the groove, from a plan view;

wherein said retaining element is spaced apart from said bio-compatible replacement the pad in anchored position by a length of said connecting portions located in said groove, the space between the retaining element and the pad being provided for bone ingrowth over the retaining element and the connecting portions.

23. (Original) The method according to claim 22, in which the pad is seeded with chondrocytes or cartilage-forming cells prior to implantation.

24. (Original) The method according to claim 22, in which the elongate connecting portions are formed by one or more flexible tensile elements taken or "threaded" through the pad, at or near the periphery of the pad, and which can extend generally perpendicular to the plane of the pad so as to be received by the groove with adjacent elements being spaced apart from each other to allow tissue ingrowth in the groove.

25. (Original) The method according to claim 24, in which a single filament, thread or yarn is attached to the periphery of the pad, and extends downwardly of the pad in loops of generally parallel lengths.

26. (Original) The method according to claim 25, in which the retaining element is pre-attached to the ends of the loops, so that downward movement of the retaining element into the groove pulls the loops downwardly until the pad is received by and then anchored in or at the bone site.
27. (Cancelled)
28. (Cancelled)
29. (Original) The method according to claim 22, in which the retaining element is deformable to take up the required shape, prior to introduction into the groove.
30. (Original) The method according to claim 22, in which the elongate connecting elements have looped ends and the retaining element comprises a ring, or near complete ring, which can be "threaded" through, or connected with, the looped ends of the elongate connecting elements, during the manufacture of the repair kit, or during the implantation procedures.
31. (Original) The method according to claim 22, in which the pad is circular in shape, crescent-shaped, part circular with two straight sides, hexagonal, or having other multi-sided shape such that adjacent pads can inter-fit with each other to fill the space made available during the preparation of the bone site.
32. (Cancelled)
33. (Currently Amended) The method according to claim 3222, in which the delivery device is hollow, at least at one end thereof, and onto which the retaining element and the pad are fitted ready for presentation by the delivery device to the prepared bone site and the surrounding groove.

34. (Currently Amended) The method according to claim 3233, in which the elongate connecting portions are arranged on the outer surface of the hollow end of the delivery device.
35. (Currently Amended) The method according to claim 3222, in which the elongate connecting portions are retained in position by a releasable holding arrangement.
36. (Original) The method according to claim 34, in which the holding arrangement comprises a band of weak adhesive tape or the like, or a thin tubular band, for engaging the connecting portions and the outer surface of the hollow end of the delivery device.
37. (Currently Amended) The method according to claim 3222, in which the delivery device is capable of being removably mounted, at its remote end, on a manually operable implant tool handle.
38. (Original) The method according to claim 37, in which the coupling between the tool handle and the delivery device includes a bearing which permits turning movement of the tool, during manipulation by the surgeon, without transfer of such movement to the delivery device.
39. (Original) The method according to claim 22, in which the cutting tool is a reaming device.
40. (Currently Amended) The method according to claim 22, in which the depth of the groove is at least five times that of the thickness of tissue cartilage which is replaced.